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Institutions and Policy Learning supporting Economic Development

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Abstract

The paper argues that a narrow conceptualization of institutions as more or less similar to ‘good governance’ is not conducive for an understanding of the institutional underpinnings of the learning economy. In stead an explicit focus on a broad set of institutions that support learning is needed. Improving learning and innovation capabilities is not only a question of more resources for education and research (more and better schools and universities) but also of better institutions supporting interactive learning and innovation in all parts of society. A key issue is to create institutions that support utilization of indigenous knowledge and develop new ways to combine indigenous knowledge with science and technology based knowledge. It is to a large extent also a question of improving the coordination and coherence between different policy areas. Policy learning has to be institutionalized as an ongoing process of minor as well as major institutional adaptations and innovations.

1. INTRODUCTION

Over the last 10-20 years ‘institutions’ have been promoted to a kind of “deep cause” of development. Institutions are now widely believed to form the preconditions for economic growth and development - positively and negatively. Rodrik (2006) even refers to this as

“institutions fundamentalism” to distinguish it from the “market fundamentalism” of the Washington Consensus.

The argument is that even if most economists agree that capital accumulation and technical change based improvements in the quality of labour are crucial drivers of economic growth and development, they are only proximate causes. The deeper question is why some countries are better than other in improving the quality of labour and stimulating accumulation and innovation and the answer to this question is taken to be the quality of institutions, which then becomes the root cause of development. Institutions are thought to be the vital rules for economic behaviour, which enable or disable all other development factors. Many factors, for example trade, finance, aid, migration, ideas and knowledge, may be important but they only work indirectly, through the institutions of society (Rodrik et al. 2004).

The problem is that often the term ‘governance’ is implicitly taken to cover the whole set of relevant institutions. The dictum ‘institutions rule’ is in fact replaced by ‘governance rules’. In a recent report on the present state of art of governance indicators the terms governance, institutional quality and institutions are used interchangeably (Kaufmann and Kraay). This tendency towards a narrow conceptualization of institutions is not conducive for an understanding of the institutional underpinnings of “the learning economy” as a fundamental aspect of the development process. What is needed is a much more explicit focus on a broad set of institutions that support learning.

Identifying and agreeing on a theoretical level on what combinations of institutions are conducive for learning is – as difficult as it may be - still the easy part. Much more difficult is to tune and change institutions in a concrete complex political setting. For this to happen we argue (in Section 2) that a policy learning approach may be a better way forward than development diagnostics building mainly on mechanistic models of economic rationality.

2. POLICY LEARNING

If policymaking is regarded as rational choice in the sphere of politics quite demanding assumptions about values, knowledge and institutions have to be made. This may to some extent be justified in the case of a well-established type of economic policy, which has had many years to develop, like macroeconomic stabilization policy in many Western high-income countries. Here we have a rather simple goal function, a relatively firm theoretical understanding of the problems (though some economists might not agree on this point) and a well-developed institutional capability.

But this is far from the case in most low-income developing countries in the South. Neither the institutional capability nor our present knowledge about industrial dynamics in both low- and high-income developing countries justifies a rational choice, decision-theoretical model of policymaking about economic growth and development.

There is not much consensus amongst economists about development policy and especially not about the role of development aid. Even the rather narrow “Washington Consensus” among neoclassical macroeconomists has now been replaced by what Rodrik (2006) calls a “Washington confusion”. In a discussion of the past experiences The World Bank (2005) concludes that there is no best practice available or in sight and that every country needs to develop its own policies.

The divide within the community of development scholars is deep. On one side there are optimists like the leader of the U.N. Millennium Project, Jeffrey Sachs, who claims that it is possible and meaningful to formulate and implement comprehensive and still quite detailed development plans. On the other side there are skeptics like William Easterly (2006) who argue that there is too much uncertainty about both the implementability and effects of such plans to make them meaningful. Incremental, small step search for is the only effective way in development policy.

This conspicuous lack of consensus indicates to us that there is no way in which a good development policy, guided by instrumental rationality, can be convincingly formulated for any developing country. It is more relevant to look upon policy making from an evolutionary perspective, as a process of *policy learning*.

Policy learning is together with technological, organizational and institutional learning an integrated part of the learning economy. It implies that policymaking itself is a process of learning and that this process more and more is concerned with learning and competence building in many parts of the economy. The goals, the instruments, the models, the data, the competence of the bureaucracy and the supporting institutions develop over time in interaction with each other. This is to some extent done as a conscious process in which policy makers, bureaucrats, experts and scholars communicate and interact over time – *direct policy learning*. It is also done in a less conscious ‘learning by doing’ way, or even as ‘learning by accident’ as when policy makers discover that environmental regulations in some cases also, unexpectedly, increase competitiveness – *indirect policy learning* (Gregersen and Johnson 2008)

Policy learning can take different forms. It may include:

- Forming visions about the learning economy as an environment for innovation and sustainable development and forming the value premises of innovation policy.
- Development of new concepts, data, and theories of innovation and systems of innovation, and the role of innovation in development.
- Institution building that supports the production and reproduction of human and social capital and diffusing international, regional and local ‘good practices’ in this field.
- Stimulating regional and local experiments in policy areas in need of reform and developing new methods to evaluate the outcomes of such experiments that take into account learning effects.
- Gradually trying, testing, evaluating and establishing new practices and routines in the conduct of policies stimulating learning and innovation for development.
- Analyzing and comparing systemic features and critically important development indicators in a form for benchmarking across regions, organizations and nations.
- Developing new forms of democratic participation in the design and implementation of learning and innovation strategies including forms of ongoing dialogues between employees, unions, researchers and governments.

The concept of policy learning implies a new perspective on a broad set of policies including social policy, labour market policy, education policy, industrial policy, energy policy, environmental policy and science and technology policy. These policies may be

looked upon both as specific areas of policy learning and as activities affecting learning and innovation capabilities in many parts of the economy.

All these area specific policies affect learning, competence building and development. They need to be designed with this in mind and brought together into a common strategy. The globalizing learning economy calls for ongoing policy learning focusing on building of competences and skills in all parts of society and on integrating narrow perspectives and strategies from different policy areas. This puts the co-ordination of policies and the long-term character of competence building into focus.

The fact that many types of policy affects the learning capabilities of individuals and firms together with the contradictions in the learning economy, increase the need for policy co-ordination. The learning capabilities have to be nurtured and defended. There is a need for policy learning in terms of building a new kind of institution for policy co-ordination. Such an institution would have as one of its strategic responsibilities to develop a common vision for how to cope with the challenges and contradictions of development in the globalizing learning economy. The basis of such a vision would be both a better understanding of the distinct national system of competence building and innovation and of the global context in which it has to operate. Especially in a period of economic crisis it is important not to lose track of the long-term requirements of the learning economy. It takes considerable time to build up competences, but they can be destroyed quite quickly.

3. INDIGENOUS AND ‘FOREIGN KNOWLEDGE’

Most development strategies involve knowledge sharing and knowledge transfer from the North. There is a growing literature about the possibilities and difficulties connected to this. A relatively neglected question in this context is to what extent it is feasible to combine indigenous and foreign knowledge. In many developing countries there are rich sources of indigenous knowledge and there is an increasing interest for the possibility to utilize them for development (World Bank 2004). It has been common both within the power elite in developing countries and within the development aid community in the North to belittle and discriminate against local ways of solving problems. This has, however, changed somewhat and in many countries there are now genuine efforts to mobilize indigenous knowledge for development in for example local resource

management, agricultural production, health care, primary education and local conflict management. A large number of cases from many countries in the South demonstrate that indigenous knowledge has the potential to contribute much more to development than it does today.

Indigenous knowledge is often local; it is unique to local cultural contexts. It is mostly preserved through oral traditions and depends on demonstration rather than documentation. Often it is commonly rather than individually owned. It is embedded in community practices, habits, rituals and relationships. It is tacit rather than codified. The characteristics of indigenous knowledge make it vulnerable. It is threatened by the disappearance of many local cultures and languages in the globalizing economy.

Since these characteristics of indigenous knowledge are very different from the ones of scientific knowledge it may seem difficult to combine these two bodies of knowledge in fruitful ways. It is well known that, for example, medical science have utilized indigenous knowledge about healing attributes of plants in the development of medicines. But this is done on the premises of science and more mutual new combinations of indigenous and scientific knowledge are less well known. Nevertheless they exist and it is quite reasonable to believe that there are vast unexploited potentials for such combinations.

Even if it is not acknowledged very much by researchers and policy-makers, who tend to focus on science and technology based knowledge, many firms in high-income countries readily combine tacit and codified knowledge in their innovation processes. In fact it has been demonstrated that firms, which rely on combining experience-based with science-based modes of innovation are more innovative than the ones, which more exclusively rely on either of them (Jensen et al. 2007). Furthermore, also scientific researchers in dedicated R&D departments and organizations combine tacit and codified knowledge in their work.

Taking this into account there is no strong a priori reason to belittle the possibility and fruitfulness of combining indigenous and science and technology based knowledge. Neither should the difficulties of making such combinations be exaggerated. Sibisi (2004) observes that in some instances (agricultural pest control, plant selection, weather forecasting, etc) indigenous knowledge has evolved into a kind of science and technology of its own with practitioners and communities making observations, drawing conclusions

and taking actions over long periods of time accumulating impressive bodies of knowledge.

Learning and innovation thrives when knowledge is shared, applied and challenged. There are enormous unexploited possibilities in knowledge sharing and interactive learning between holders of indigenous and scientific knowledge. The realisation of some of these potentials is prevented not only by ignorance and scepticism, even if that probably has done quite a lot of harm, but primarily by lack of adequate institutions. There is a need to develop partnerships between scientists and practitioners of indigenous knowledge in which both can learn from each other. Systems and organisations, which support documentation and systematic testing of indigenous knowledge, need to be established. Twinning arrangements between research institutions in the South and North may also be useful. Institutions that protect the livelihoods of practitioners of indigenous knowledge and make it less risky for them to share their knowledge are needed as are better incentives in general for interactive learning in this area.

To create institutions, which support utilization of indigenous knowledge as well as new combinations between indigenous and science and technology based knowledge will not be easy. It is a process in which old habits of thoughts have to give way to open and curious cooperation. Research on these kinds of knowledge sharing and active policies for institutional change over long periods of time are needed. New types of policies, which can mobilise the potentials of combining indigenous and modern types of knowledge have to be developed.

4. INSTITUTIONS SUPPORTING LEARNING

As mentioned earlier, it has become quite common to argue that poverty depends on institutional and political factors, which block opportunities for poor people to solve their problems based on their own skills, competences and knowledge (Easterly 2006). In this context Rodrik (2008) has referred to the lack of certain desirable institutional arrangements, which “provide security of property rights, enforce contracts, stimulate entrepreneurship, foster integration in the world economy, maintain macroeconomic stability, manage risk-taking by financial intermediaries, supply social insurance and safety nets and enhance voice and accountability.” Except, maybe, for “stimulating

entrepreneurship”, the focus seems to be on the reduction of transaction costs.

At first sight this seems to constitute a rather clear set of institutional recommendations for developing countries but as Rodrik (2006, 2008) has shown this is often far from the case. The context dependency of institutions and their systemic nature imply that, for example, a move towards more secure private property rights with formal court-based contract enforcement will not necessarily enhance private investment and economic growth. There may be other institutions (for example relational contracting based on trust), which stimulate investments and enforce contracts that may actually be damaged by institutional reforms towards securing formal private property rights.

Every existing institutional set-up is a mix of formal and informal, old and new, indigenous and foreign, flawed and well-functioning institutions. Every existing institutional set-up has systemic characteristics without being a complete, harmonious system in some sort of equilibrium. There are always contradictions in the institutional system and it is always in flux. This means that giving advice on institutional change should never rely on ideas about best practice in a well functioning market economy. It is necessary to make a concrete institutional analysis in each specific situation building on detailed knowledge about the history and structure of the specific economy.

In such a context it is often useful to think about the possibilities to rely on informal indigenous institutions rather formal foreign ones. Current institutions are always affected by previous ones. Since globalization and technical change lead to pressures to introduce formal institutional traits like intellectual property rights, rules for international trade and capital movements, for international co-operation and development aid, etc. successful institutional reform requires ongoing combination of indigenous and foreign institutions.

Capabilities to learn and innovate are crucial in the process of development. Innovations introduce technical and organizational knowledge into the economy. We can think of them as results of learning processes contributing to the removal of ‘unfreedoms’ like ignorance, poverty, lack of learning opportunities, lack of economic opportunities, and so on (Sen 1999). We can also think of them as contributing to the enhancement of substantive freedoms like the capability to work, communicate, learn, and participate democratically in political processes.

Learning processes form preconditions for innovation: learning does not always result in innovation, but without learning there would be no new knowledge to introduce into the economy, except, possibly, for “accidental” innovations. Technological capabilities of firms, for example, develop over time as a result of learning - not only firm specific learning, but also different kinds of interactive learning, co-operative as well as competitive, between firms and organizations. Capability building requires interactive learning by individuals, organizations and communities taking part in processes of innovation of different kinds. Learning may be seen as responses to critical problems and conflicts generating open-ended processes of search. A broad spectrum of socially based, inter-linked learning capabilities is necessary for efficient innovation processes.

Learning capabilities do not only have instrumental roles in development. They also have substantive value directly contributing to human wellbeing. To be able to participate in learning and innovation in the work place may be ‘a good thing’ as it contributes to a feeling of belonging and significance. This is also the case for possibilities of education and participation in democratic processes. These are undoubtedly (often) important instruments for many kinds of learning and innovation, which enhance economic growth and development, but they are also parts of a good life and valuable as such. Many of the factors that make people effective learners and active participants in innovation activities may be viewed also as constitutive parts of development.

Learning and innovation are at the heart of development. Of course, development is much more than learning but it is hard to imagine development, which doesn’t involve and isn’t to some extent driven by learning. In a sense this is almost tautological: Production can be described as a result of three basic factors of production – materials, energy and knowledge, which together transform materials from one form to another, a transformation which requires energy and is controlled and directed by knowledge (Boulding 1981). There is no qualitative economic change, then, without learning and new knowledge.

It is of course important to be aware of the pivotal role of learning in development but the real difficulty is to understand the prerequisites for learning, i.e. to identify and analyze the economic, political and social institutions, which supports or get in the way of learning and innovation.

Institutions supporting human resource development

As already stated in the introduction, it is crucial for development to broaden the focus from institutions related to ‘good governance’ to include ‘non-governance’ type institutions affecting learning and innovation capabilities. An important category in this context is the group of *institutions, which support human resource development*. The quality of and the access to institutions and organizations directly involved in the knowledge production and distribution - like the school system, the universities and research centres, the vocational training system, the system of technological service centre, research councils, telecommunication networks, libraries, and databases - form a basic resource for the learning capability of both individuals and firms. There is still a big gap between the public and private investments in human resource development on the one hand and the actual need for upgrades on the other in most developing countries and the access to information, education, and training is very unevenly distributed.¹ Furthermore, many developing countries suffer from “brain drain”. Improving the opportunities for people with a higher education to use their knowledge in a productive way within their home country is a crucial key to strengthen innovation and capability building in developing countries. A directly related aspect of the lack of demand for higher educated labour is that universities and research institutions often live a relatively isolated life with very little collaboration with the private enterprises. Universities’ so-called ‘third mission activities’ is both a possibility to diminish such segregation and potentially to bridge indigenous and science and technology based knowledge.²

There is a need to focus more on how labour market institutions support competence building of people and firms. Agreements concerning vocational training and education influence learning and innovation activities. The relations between competence, responsibility, participation, flexibility, and wages may either promote or hamper the development of learning and innovation capabilities of individuals and firms. The division

¹ It is widely accepted, that Higher Education and research are crucial factors for creating and maintaining sustainable growth in developed countries. This goes for developing countries as well. In other words, the long-term poverty reduction goals in contemporary development aid can only be achieved if the focus on capacity building within Higher Education and research in the South is strengthened.

² See for instance World Bank (2004) for a sample of concrete examples on mutual benefits of bridging indigenous and science and technology based knowledge.

of labour between public training and education and firm specific competence building may play a role, too.

Institutions coping with conflicts

Capitalism develops through contradictions, which produce the out-of-equilibrium situations that provoke action and change. The globalizing learning economy, regarded as the latest phase in the development of the capitalist economy adds new contradictions to the old ones. There has been an increasing speed of change in general and also an increasing importance of short-term profit maximization due to the growing amount and importance of financial capital movements. For financial organizations the dominating profit logic is that money creates money, i.e. a short cut of the old Marxian description of the capitalist logic of investment: money – production – sales - more money. To a considerable extent this view has spread to the rest of society. Selling and buying financial assets and instruments and not production of goods and services, seems to have become widely regarded as the main value creating activity in society at least up till the outbreak of the financial crisis in 2008.

This development is in contradiction with the requirements of the real economy in which the development imperative is to build up and maintain physical capital (machines, tools, buildings), intellectual capital (knowledge and competences), social capital (institutions supporting trust, interaction and cooperation and strengthening the access to indigenous knowledge and the communication between indigenous and modern knowledge) and natural capital (eco-systems and natural resources). Financial resources move swiftly from sector to sector with short time horizons, while the development imperative requires long-term thinking and durable patterns of interactive learning. The contradiction is aggravated by the fact that intellectual capital depends on social capital and maybe also increasingly on natural capital.

In the learning economy firms are actively managing knowledge in many different ways. They buy, recruit, produce, recombine and adapt knowledge. The benefits and costs of these types of change are unevenly distributed in society and a faster process of structural change tends to increase social tensions. Since learning is fundamentally and increasingly interactive it requires a degree of social cohesion and trust to flourish. If conflicts about the distribution of income and power and about access to information and knowledge,

indigenous as well as modern, become too severe, trust between people will decrease, social cohesion will be reduced and learning will be held back. Unregulated capitalism tends to polarize society and thus threatens the development of the learning economy. An interesting consequence of the contemporary financial and economic crises seems to be a, perhaps temporary, revival of active national governments and regulations to guide market agents in more social responsible directions.

In addition to this knowledge in itself is characterized by several contradictions. Even if firms want to have free access to new knowledge created in other parts of the society, they also want to charge for the knowledge they create themselves. This feeds an accelerating process of commodification through creation of intellectual property rights. But some types of knowledge have inherent public goods characteristics and it may be both difficult and ill advised to transform them into private goods. It may be expensive to produce new knowledge but once this is done the marginal costs of using it is often quite low. From the point of view of society as a whole it may not be a good idea to privatize an inherently public good. Every time a public good is not used, because the requested payment is bigger than the marginal cost of supplying it, there is an unsolved efficiency problem and welfare loss. At the same time it may be important to protect and develop the rights of holders of indigenous knowledge in order to make them more willing to share it with firms and organizations in the formal economy.

The fast rate of change in the learning economy implies a need to develop institutions, which cope with conflicts. It is difficult to redistribute welfare, ex post, in a society with an uneven distribution of competence. There is a need for institutions that give people, firms, and regions with weak learning capabilities adequate help to upgrade their competences (Lundvall 2001).

Lots of economically useful knowledge is regularly lost when educated individuals are unemployed or otherwise prevented from upholding or developing their competences over extended periods of time. Knowledge is also lost when transnational firms move R&D activities from developing countries to the North and when globalization destroys local cultures and repositories of indigenous knowledge. To prevent or at least retard this process is also a challenge, which calls for institutional learning. There are many ways in which institutions may hold back harmful de-learning. Technological service systems,

support systems for entrepreneurial activities and upstarts of new firms, and support for firms to hire unemployed people with higher education have been useful in some small countries in the North and may prove adaptable to the South, too. Educational efforts to improve language and communication skills broadly in the population would increase employment options, support interactive learning and retard de-learning of competences.

Institutions supporting interaction and co-operation

Institutions, which support interaction and co-operation, are fundamental in the learning economy. Innovation capability can't be adequately understood at the level of the individual firm or organization. It depends on interactions and feedbacks within the organizational set-up of the economy. Institutions fostering collaboration, dynamic linkages, and networking are crucial for stimulating learning and innovation capabilities. Experiences from organization studies tell us that bureaucratic and hierarchic organizational forms often hamper internal and external communication and mutual learning, whereas more flat and organic forms are often more suited to support flexibility, openness for new ideas, and interactive learning. However, since organizational structures and cooperation forms are embedded within a broader socioeconomic context, reflecting both historical and cultural trajectories, establishing and maintaining formal and/or informal innovative co-operation and networks among central actors is evidently a long-term process, which may be quite difficult to establish and maintain.

Regardless of whether such innovative co-operation or networks are supported by formal arrangements, as for instance R&D contracts and joint ventures, or they only rely on informal relations, trust is an important ingredient, which in its own turn develops through interaction and co-operation. If there is trust between the parties, they will interact and co-operate better in many long-term processes of interactive learning. Without trust R&D co-operation may be practically impossible. It may be difficult, then, to develop learning and innovation capabilities in societies characterized by conflicts and low trust. Trust is not a scarce commodity in the traditional sense, but since it, just as knowledge, tends to grow when used and erode when not used or misused, it is possible to get trapped in a condition of low trust. This seems to be the case in many developing countries, which often have a very uneven distribution of income, wealth, and power. There is also often very little co-operation between the government sector and private interests, and the relations that do exist may be tainted by corruption. This is not a good environment for learning and may be

the deeper reason why so many problems in the public-private interface remain unsolved even when there is no lack of resources or competence in a traditional sense. Failing to utilize and respect indigenous knowledge on institutional arrangements and decision-making processes may be another.

5. CONCLUSION

In his reflections on ‘learning from a decade of reform’ Rodrik (2006) makes a distinction between igniting and sustaining economic growth. The idea is that to ignite economic growth policy makers should concentrate on removing the most binding constraints on growth. General recommendations of institutional reform to, for example, specify and implement property rights, and strive for good governance will not work since the most growth hampering constraints most certainly are highly country specific being results of the history and international context of the country in question. In Rodrik’s model the most binding restrictions on growth could be either low return to economic activity or high cost of finance. If the problem is low economic returns this could either be because of low social returns or low appropriability of these returns, etc. If the most binding constraints can be identified and removed there should be a fair chance that this can ignite economic growth, i.e. the country gets out of situation of stagnation and starts to grow. But this is only a temporary solution: “Of course institutional reform will be needed eventually to sustain economic growth” (Rodrik 2006, p. 980).

Presumably also the institutional reforms needed to sustain long growth after it has been ignited are country specific (even if this question is not explicitly raised by Rodrik). It will not be enough to support ‘good governance’ since this doesn’t address the problem of the institutional underpinning of learning capabilities. Thus the development diagnostics needed for a country includes but also exceeds an identification of the most binding constraints. It must include an analysis of the weaknesses and strengths of the national system of innovation and its institutional set up.

But also the growth diagnostics for igniting growth have to take institutions into account. There may be institutional elements in ‘the most binding constraints’ and it may be necessary to institute a process of policy learning to be able to implement the strategy in the first place. Furthermore, removing the most binding restrictions may not ignite growth

even in the short run if the country to a high degree lacks adaptation and learning capabilities to utilize the new situation³.

Building and improving learning and innovation capabilities is to a very large extent a process of institutional learning and institutional innovation. Improving learning and innovation capabilities is not only a question of more resources for education and research (more and better schools and universities) but also of better institutions supporting interactive learning and innovation in all parts of society. It is to a large extent also a question of improving the coordination and coherence between different policy areas. Policy learning implies an ongoing process of minor as well as major institutional adaptations and innovations. Some of these have to be deliberately planned and implemented by the government in cooperation with private firms, organizations, local communities, etc. This is the case for institutions supporting human resource development, institutions coping with conflicts and institutions supporting interaction and co-operation. Coordination and collaboration is crucial in order to be able to find new sustainable ways to support utilization of indigenous knowledge and to stimulate new combinations between indigenous knowledge and science and technology based knowledge.

It is important to stress that there are different roads to enhance learning and innovation capability. There is no 'one size fits all' approach to economic development. Each country has to create and modify its own institutional framework towards a sustainable development. But some of these challenges - for example the current financial crises and global warming problems - require international (global) collaboration combined with concrete responses at the local and national level.

³ The idea that removing restrictions will lead to growth is an example of a "modernistic" and amongst economist quite common view that if you remove the shackles, fetters and restraints that prevent the natural dynamic forces of the economy to unfold themselves you may expect increasing fulfilment of human needs and wants.

REFERENCES

- Arocena, R. and Sutz, J. (2000), "Interactive Learning Spaces and Development Policies in Latin America", *DRUID Working Paper* 13/2000.
- Dalum, B., Johnson, B. and Lundvall, B.-Å. (1992), "Public Policy in the Learning Society" in Lundvall (ed.), *National Systems of Innovations - Towards a theory of innovation and interactive learning*, Pinter Publishers.
- Easterly, W. (2006) Answer to Jeffery Sachs' review of "White Man's Burden" by William Easterly, *The Lancet*, vol. 367, issue 9519 April 2006.
- Edquist, C. (ed.) (1997), *Systems of Innovation, Technologies, Institutions and Organizations*, Pinter Publishers/Cassell Academic.
- Edquist, C., Hommen, L., Johnson, B., Lemola, T., Malerba, F., Reiss and Smith, K. (1998), *The ISE Policy Statement*.
- Gregersen, B. and Johnson, B. (1997), "National Systems of Innovation as a Framework for Innovation Policy", paper for International Conference on *Technology Policy and Less Developed Research and Development Systems in Europe*, Seville, 17-18 October 1997.
- Gregersen, B. and Johnson, B. (2008), "A Policy Learning Perspective on Developing Sustainable Energy Technologies", paper presented at the 6th Globelics Conference *New insights for understanding innovation and competence building for sustainable development and social justice*, Mexico City, September 22-24, 2008.
- Jensen, M. B., Johnson, B., Lorenz, E., and Lundvall, B.-Å. (2007), "Forms of knowledge and modes of innovation", *Research Policy*, vol 36 no. 5.
- Johnson, B. and Lundvall, B.-Å. (2000), "Promoting innovation systems as a response to the globalising learning economy", Project Local Productive Clusters and Innovations Systems in Brazil: New industrial and technological policies.
- Kaufmann, D. and Kraay, A. (2007), "Governance Indicators: Where Are We, Where Should We Be Going?", *Policy Research Working Paper* 4370, The World Bank.
- Lundvall, B.-Å. (2001), "Innovation policy in the Globalising Learning Economy", in Archibugi, D. and Lundvall, B.-Å. (eds.) (2001), *The Globalising Learning Economy*, Oxford University Press.
- Lundvall, B.-Å. and Borràs, S. (1999), *The Globalising Learning Economy: Implications for Innovation Policy*, Brussels, DG XII.
- Lundvall, B.-Å. and Borràs, S. (2005), "Science, Technology, and Innovation Policy" in Fagerberg, J., Mowery, D.C. and Nelson, R.R. (eds.) (2005), *The Oxford Handbook of Innovation*, Oxford University Press.
- Lundvall, B.-Å. and Johnson, B. (1994), "The Learning Economy", *Journal of Industry Studies*, Vol. I, No. 2.
- Mytelka, L. K. and Smith, K. (2002), "Policy learning and innovation theory: an interactive and co-evolving process", *Research Policy*, Vol. 31, 1467-1479.
- Nelson, R. and Sampat, B.N. (2001), "Making sense of institutions as a factor shaping economic performance", *Journal of Economic Behaviour and Organisations*, Vol. 44, pp 31-54.
- Rodrik, D. (2006), "Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank's *Economic Growth in the 1990s: Learning from a Decade of Reform*", *Journal of Economic Literature* Vol. XLIV (December 2006), pp. 973-987.
- Rodrik, D., (2008), Second Best Institutions, *American Economic Review*, Papers and Proceedings, 100-104.

Rodrik, D., Subramanian, A. and Trebbi, F. (2004), “Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development.” *Journal of Economic Growth*, 9(2): 131–65.

Sen, A. (1999), *Development as Freedom*, Oxford University Press.

Sibisi, S. (2004), “Indigenous Knowledge and Science and Technology: Conflict, Contradiction or Concurrence” in *Indigenous Knowledge. Local Pathways to Global Development. Marking Five Years of the World Bank Indigenous Knowledge for Development Program*. World Bank.

World Bank (2004), *Indigenous Knowledge – Local Pathways to Global Development*, IK Notes published by the Knowledge and Learning Group, Africa Region, The World Bank.

World Bank (2005), *Economic Growth in the 1990s: Learning from a Decade of Reform*, Washington, D.C. World Bank.